

## REMARKS

In this response to the Office Action dated December 21, 2009, Claims 1 and 10 have been amended. No new matter is added by these amendments as discussed below.

Claims 1-6 and 10-14 remain pending. In view of the amendments and remarks as set forth herein, Applicants respectfully request withdrawal of the claim rejections and reconsideration of the pending claims.

### **Discussion of the Amendment**

In the Advisory Action issued on September 11, 2009, the Examiner stated that “[t]he applicant argues that the anterior loop is not a knot as recited in Igaki based upon the specification statement on page 12, lines 14-17 specifically that it would be impossible to return the thread end to the original position. However, this limitation of having the thread return to its original position is NOT in the claim, only that it is an anterior loop that prevents unraveling.”

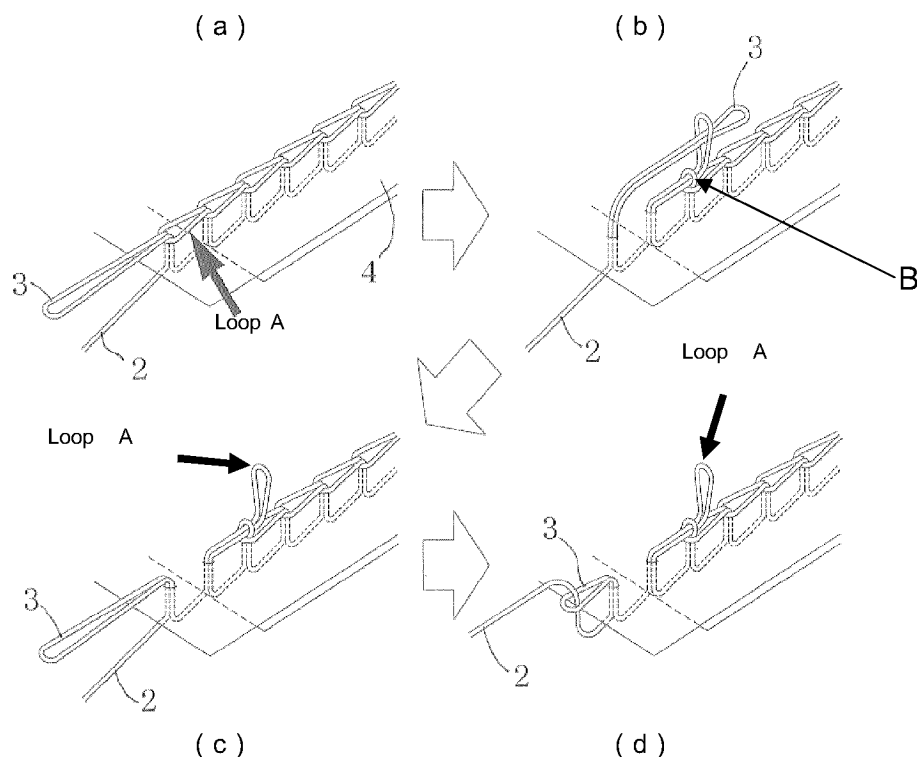
In reply to the foregoing, Applicants have amended Claims 1 and 10 to more expressly recite that the thread end after passing through the anterior loop is returned to the sewing end (i.e. its original position before passing through the anterior loop). Support for the amendment can be found, for example, from Figure 14 and the description in page 12, lines 14-17 of the specification as originally filed. As such, the amendment does not constitute any new matter.

### **Claim rejection under 35 U.S.C. 103 (a) over Igaki and Leopold**

The Examiner rejected claims 1, 3, 4, 6 and 10-14 under 35 U.S.C 103(a) as allegedly unpatentable over U.S. Patent No. 5,766,188 to Igaki (“Igaki”) in view of U.S. Patent No. 6,352,561 to Leopold *et al.* (“Leopold”). Applicants respectfully traverse this rejection.

The method of the present invention for preventing thread unravelment is detailed in the specification in Fig. 14, and on page 12, lines 2 to 10, which is an exemplary illustration. The method is more specifically described below with reference to Figs. 1 (a) to (d). In Fig. 1, the same reference numerals as those of the equivalent components in Fig. 14 are used. In Fig. 1, 2 denotes a thread end, 3 denotes a loop, and 4 denotes a tubular suture reinforcement material (the same as those of Fig. 14).

Figure 1



The above Fig. 1 shows procedural steps of thread end unravelment prevention.

- Pull the loop (referred to as Loop A) marked by a black arrow in Fig. 1 in a sawing start direction (Fig. 1 (a)).
- Tighten the pulled loop with the anterior loop to secure Loop B (Fig. 1(b)).
- Remove loop 3 from Loop A (Fig. 1(c)).
- Pass the extended thread end 2 through loop 3 to prevent the thread from unraveling.

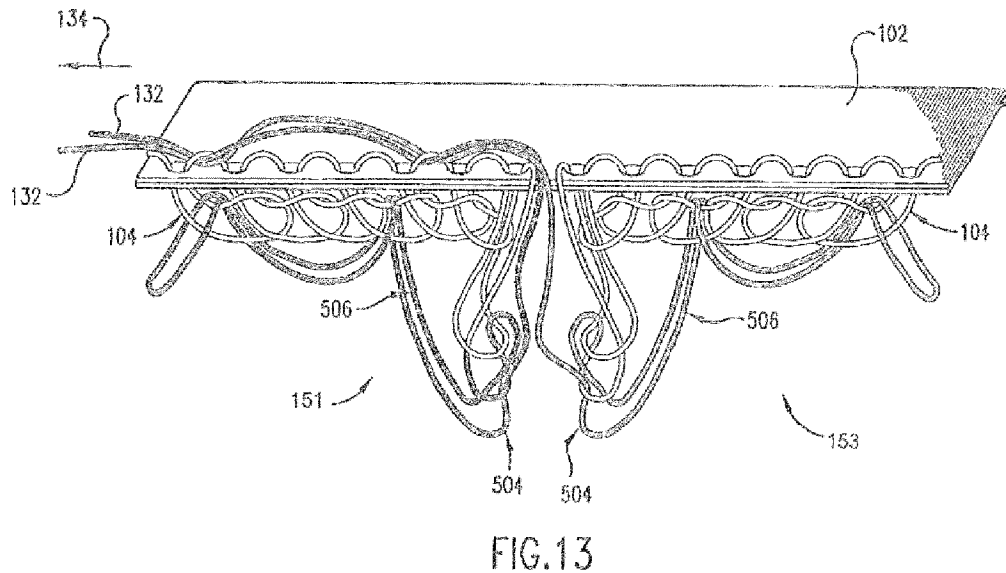
This method for preventing the thread from unraveling keeps the thread from being drawn out from the suture reinforcement material due to any tension that is unintentionally applied to the thread end 2. After the predetermined suturing process is completed, the thread is smoothly drawn out from the loop 3 by returning the thread end 2 passing through the loop 3 to the original position.

Igaki discloses an embodiment, in which a knot, or the like, is formed at an end adjacent to the shape maintaining support member. This knot is formed therein not for preventing the thread from unraveling, but for allowing the suturing thread to be removed simultaneously with the removal of the shape maintaining support member after the sewing operation has been completed. See column 3, lines 30-38 of Igaki. In other words, the formation of a knot in the invention of

Igaki is not for appropriately drawing the thread out by once returning the thread end passed through the loop to the original position as in the present invention, but for removing the shape maintaining support material with the thread remaining attached thereto.

Further, as demonstrated in Fig. 13 of Leopold, the configurations 151 and 153 provide a delay mechanism for release of the coupling member, when the lead (132) is pulled in the direction of the arrow (134). Thus, inadvertent pulling of the lead (132) will not immediately begin to release the coupling member. Fig. 13 of Leopold is shown below.

Figure 13 of Leopold



Accordingly, the description of Fig. 13 is different from the mechanism of the present invention, which is for preventing a thread from unraveling, in such a manner that a thread end at a sewing end is passed through the anterior loop continuous to the thread end. In addition, Leopold nowhere teaches returning a thread end passed through the loop to the original position.

As noted, Igaki and Leopold fail to teach, among many others, the mechanism of the present invention, which is for preventing a thread from unraveling. Accordingly, a person skilled in the art would not arrive at the present invention, even if Igaki is combined with Leopold. In light of the foregoing, withdrawal of the rejection of claims 1, 3, 4, 6, and 10-14 is respectfully requested.

**Claim rejection under 35 U.S.C. 103 (a) over Igaki, Leopold and Oi**

Claim 2 was rejected under 35 U.S.C 103(a) as allegedly unpatentable over Igaki in view of Leopold and in further view of U.S. Patent No. 6,063,097 to Oi *et al.* ("Oi"). Applicants respectfully traverse this rejection.

The Examiner asserted that Oi discloses that the tip part is sewn in a tapering fashion (Figure 7 of Oi). Based on this, the Examiner rejected the present invention as being obvious over the above-mentioned cited references in further view of Oi. However, as explained above, neither Igaki nor Leopold provides the mechanism of the present invention for preventing a thread from unraveling. Further, Oi also fails to disclose such a mechanism of the present invention for preventing a thread from unraveling. As such, the subject matter recited in claim 2 is unobvious over the combined teachings of the above cited references. Withdrawal of the rejection and reconsideration of claim 2 is respectfully requested.

**Claim rejection under 35 U.S.C. 103 (a) over Igaki, Leopold and Dalessandro**

Claim 5 was rejected under 35 U.S.C 103(a) as allegedly unpatentable over Igaki in view of Leopold and in further view of U.S. Patent No. 6,273,897 to Dalessandro *et al.* ("Dalessandro"). Applicants respectfully traverse this rejection.

The Examiner asserted that Dalessandro teaches projections on a buttress (Fig. 12 of Dalessandro). Based on this, the Examiner rejected the present invention as being obvious over the above-mentioned cited references in further view of Dalessandro. However, the projections disclosed in Dalessandro are provided so as to be inserted in a knife guide channel of a staple. Therefore, the shape and the functions of the projections of Dalessandro are totally different from those of the projection of the present invention, which is formed on a sewing end portion of a sheet-like material. In addition, as explained above, neither Igaki nor Leopold provides the mechanism of the present invention for preventing a thread from unraveling. Dalessandro also fails to disclose such a mechanism for preventing a thread from unraveling. Accordingly, claim 5 is unobvious over the combined teachings of the above cited references. Withdrawal of the rejection and reconsideration of claim 5 is respectfully requested.

**No Disclaimers or Disavowals**

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this

application. Applicants reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

### CONCLUSION

Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, arguments in support of the patentability of the pending claim set are presented above. In light of the above remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested. If the Examiner has any questions which may be answered by telephone, he or she is invited to call the undersigned directly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: March 22, 2010

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